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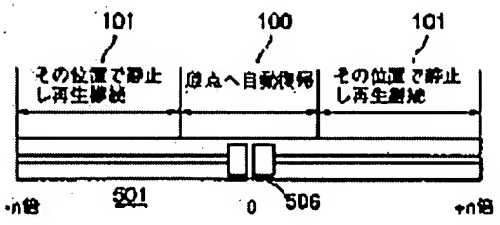
(54) METHOD FOR DISPLAYING MOVING IMAGE AND DEVICE THEREFOR

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a display screen having a shuttle function whose operability is excellent, by providing an origin in the neighborhood of the center of a slider, and automatically returning a knob to the origin even when the knob is positioned at any position within prescribed right and left equal ranges with the origin at the center.



SOLUTION: The position of a knob 506 moved by a mouse is detected, and when the knob 506 is moved within a constant section (first area) 100 in the neighborhood of the original position center of a previously set slider 501, the display of the knob 506 is automatically returned to an origin 0, and reproduction is stopped simultaneously so that the reproduction of a video and a voice can be turned into a stopped state. Thus, the labor of an operator for returning the knob 506 to the origin is eliminated. Moreover, the range of the constant section (first area) is widened to the whole part of the slider 501 so that the knob can be automatically returned from an arbitrary position to the central part.

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* NOTICES *

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the edit equipment, the especially suitable dynamic-image display for program work of a dynamic image, and the dynamic-image method of presentation which are used for program work of a television broadcasting program, a video program, etc.
[0002]
[Description of the Prior Art] With the rapid progress to the information age, the advanced features which used the computer of the work facility which makes a television broadcasting program and a video program are progressing quickly. When especially program work in recent years uses a video tape recorder like before and handling and preservation record [rather than] image information on easy and cheap a hard disk and an optical disk using the image edit approach that a tape counter is repeated for a rapid traverse, rewinding, etc. in a letter, and image information is edited, many image edit approaches which used the dynamic-image edit equipment into which image information is edited are used.
[0003] However, although advanced features were carried out using the computer, the activity which records a dynamic image on a hard disk, and the activity which previews and checks the dynamic image recorded on the hard disk are required for the editing task in dynamic-image edit equipment equipped with the magnetic recorder and reproducing device which uses this hard disk and optical disk. (A preview is reproducing and checking on a display the result which edit in the middle of edit of image information completed.)
Generally, in edit of a dynamic image, the dynamic-image edit equipment into which image information is edited displays actuation and a control window by work of software on the display linked to the system control computer which constitutes dynamic-image edit equipment, and this actuation and a control window are used for it, and it performs actuation and control of dynamic-image edit equipment.
[0004] By work of software, in the actuation on a display, and a control window The rectangular viewing area which the control panel for substituting being combined with actuation of input devices, such as a mouse and a keyboard, for functions, such as a slider and a pushbutton switch, is displayed, for example, substitutes for the function of a slider (a slider is called hereafter.) In inside, the viewing area of the rectangle which simulated the knob of a slider is prepared further, and it is the viewing area (a knob is called hereafter.) of this rectangle. The mouse connected to the system control computer is used. Cursor Superposition, It clicks with a mouse (it is carrying out actuation of pushing the pushbutton switch attached to a mouse.). It carries out or is a drag (it is operating moving the location of the graphic form which piles up cursor and is chosen by moving a mouse etc., pushing the pushbutton switch of a mouse.). By making it move by carrying out, the shuttle function to realize the shuttle function of the dial type attached to a video tape recorder and the same function is prepared.
[0005] Here, the example of a screen configuration for the editing operation at the time of using as an example the dynamic-image edit software currently generally used for drawing 8 is shown. a similar screen -- MEDIA SUITE PRO and User's Guide for THE INDIGO (trademark) FAMILY and Version 1.0 and P. -- it is shown in 59 and 1994. In the screen for these editing operation, the window 800 currently displayed is [of incorporating and recording a video data on an edit system] for editing tasks, the image display section 802 is in the central part of a window 800, and the slider 801 which realizes an above-mentioned shuttle function and the same function is formed in the right-hand side control panel of a window 800.

[0006] Generally, as a type of functional actuation of such a shuttle, the type (only the slider part which realizes a shuttle function is indicated in the following explanatory view sides.) explained below is mainly known. a similar shuttle function -- Adobe PremiereTM User Guide Version 4. -- it is indicated by 0, 1994, and page122. This conventional shuttle function (the 1st type) is the type which made all the frames of the dynamic image currently edited in agreement with all the scales of a slider, as shown in drawing 2 . That is, it is the thing of a type which will direct and drag the head frame 202 (IN point is called) of the file for a dynamic image if the knob 201 of the slider 200 currently displayed is dragged using a mouse and moved to the left end 204 of a slider 200, and directs the last frame 203 (an OUT point is called) of a file if it is made to move to the right end 205 of a scale.
[0007] Moreover, if this type of slider 200 detaches the knob 201 currently dragged and drag actuation is stopped, the knob 201 will stand it still in the location which detached the knob 201 as it was.
[0008] As shown in drawing 3 , when a center or near a center a slider 300 is made into a zero 302 and a knob 301 is in the location as the 2nd type, it is also possible for the reproduction speed of an image to be set to 0 and to make it serve as a static-image display. In this case, if a knob 301 is moved to the right, if it moves to the forward direction on the left, an image will be reproduced by hard flow, and according to the movement magnitude from the zero 302 of a knob 301, reproduction speed will change, namely, will reproduce a dynamic image further as it is also at the assigned reproduction speed.
[0009] For example, in the location 1, then at the right end of a slider 300, it is reproduced by one n times [usual] the rate of this, and hard flow reverse-reproduces the usual reproduction speed by one n times [usual] the rate of this with usual in a left end location. If a knob 301 is detached in the location of arbitration, reproducing a knob 301 by this 2nd type of shuttle function, is continued with the reproduction speed of the location where it was stood still in the moved location of that arbitration, and the knob 301 stood it still. In order to stop playback this 2nd type of case, the activity whose operator returns a knob 301 to a zero 302 is required.
[0010]
[Problem(s) to be Solved by the Invention] As mentioned above, or there are some classes of the shuttle functions for the dynamic-image playback with which the edit system which used dynamic-image edit software is equipped, it thinks, but in previewing the edit progress in the time of being under edit or edit being completed, or the check of the contents of the edit result, the following problems occur, respectively.
[0011] the movement magnitude which a knob faces [doing fine-tuning activity of wanting for the frame number by which in the case of the shuttle of the 1st type the object to preview is assigned to the movement magnitude of a knob as it is the image which attains to long duration to increase for example, to return only one frame] -- **** -- since it becomes short, actuation becomes difficult and it is not suitable to playback by the same rate over long period of times, such as slow playback and **** playback
[0012] Moreover, in the case of the shuttle of the 2nd type, while reproducing with a certain reproduction speed, in order to stop playback using a shuttle function, the activity which returns a knob to a zero is needed, but it is very difficult to align a knob with the zero of a slider certainly by one actuation, it goes too far more often right and left, and requires time amount.
[0013] as mentioned above, in previewing using a shuttle function In the advantage and demerit being in each and performing slow playback and rapid-traverse playback etc. When there is no function which carries out an auto return to a zero like the 2nd above-mentioned type unsuitably as for the 1st above-mentioned type Actuation is difficult although a knob must be moved to the location which makes reproduction speed zero to stop playback immediately and display the frame, when the target frame appears.
[0014] Predetermined within the limits with equal right and left which the purpose of this invention solved the above-mentioned problem, prepared the zero a center or near a center the slider in the window for edit, and faced across the zero Even if a knob is in which location, return and reproduction speed serve as zero at a zero automatically, a cine mode display is made into a idle state, and the predetermined range outside is offering the dynamic-image method of presentation and equipment which carry out a cine mode display with the reproduction speed set as the location while the knob's had stood it still in the moved location.
[0015] The 2nd purpose of this invention will be offering the dynamic-image edit equipment and the dynamic-image method of presentation with which the location of a knob can return to a zero from all locations, if a knob is detached.
[0016]
[Means for Solving the Problem] In order to attain the above-mentioned purpose, the dynamic-image method of

presentation of this invention The center of this slider graphic form is made into a zero for the field of the slider graphic form displayed on the window for edit. When it divides into the outside (the 2nd field) of the 1st field and this 1st field, and a knob is moved to this 2nd field of said slider graphic form or said knob is further detached in this 2nd field Said knob stops in the location and image display is continued at the rate of the request set up according to the distance from the zero of said knob and said slider graphic form. said knob is moving in the 1st [of said slider graphic form / said] field -- it is -- it is -- when said knob is detached and it stops, said knob returns to the zero of said slider graphic form automatically, and indicates it a idle state or a quiescent state by image reconstruction.
[0017] Moreover, the range of said 1st field makes a setup possible, and if said knob is detached by extending to said whole slider if needed, it may enable it to return the location of said knob to a zero from all locations.
[0018] Furthermore, if it reproduces with the reproduction speed corresponding to the location of a mouse and an operator detaches said knob only while continuing clicking said knob with a mouse, in said slider graphic form whole region, it returns to a zero automatically, and is good also considering playback as a idle state.
[0019]
[Embodiment of the Invention] Image information is inputted from picture reproducer like a video tape recorder for reproducing image materials, such as a video tape which recorded the image information which consists of an image and voice as edit equipment which enforces the dynamic-image method of presentation by this invention, a film, and a videodisk, and there are some which have a record regenerative apparatus equipped with the function recorded on record media, such as a magnetic disk and an optical disk.
[0020] In this record regenerative apparatus, image information was recorded, for example, it is read because an operator usually accesses through designating devices connected to the system control computer, such as a mouse and a keyboard, and image information is displayed on a display screen, and record media, such as a magnetic disk, are used for the edit of arrangement of image information, special effect processing like wipe, etc. which followed in order of necessary edit.
[0021] In order to check the contents recorded from the image material, and the contents of the scene under edit or after the completion of edit in process of such an editing task, an image and voice are usually reproduced using a preview function.
[0022] If an operator chooses a necessary scene with designating devices, such as a mouse and a keyboard, and a preview function is chosen, the preview window 500 as shown in drawing 6 will start, it will be displayed on a screen, and a playback indication of the animation will be given at the image display section 503 on a preview window 500. Drawing 6 is explained in full detail later.
[0023] The configuration of the dynamic-image edit equipment of one example of this invention is shown in drawing 4 . drawing 4 -- setting -- 211 -- CPU and 212 -- memory and 213 -- a changing [scene] point detecting element and 214 -- for magnetic storage and 217, as for a monitor and 219, a frame buffer and 218 are [a video interface and 215 / VTR and 216 / the input section and 220] buses. It connects with CPU211 through a bus 220, and it connects with the video interface 214 and VTR215 is in memory 212, the changing [scene] point detecting element 213, the video interface 214, magnetic storage 216, a frame buffer 217, a monitor 218, and the input section 219.
[0024] In drawing 4 , VTR215 reproduces the image information which consists of the dynamic image and voice of a single string which consists of two or more scenes from a video tape [finishing / wearing]. The video interface 214 inputs the image information from said VTR215, is changed into the format which treats a dynamic image with this equipment, and inputs it into magnetic storage 216 through a bus 220. At this time, the dynamic image of an one-frame unit is supplied to the changing [scene] point detecting element 213 through the video interface 214 and a bus 220 from said VTR215. A monitor 218 is a CRT display device and displays the scene, cut, and the edit condition of using for edit. A frame buffer 217 memorizes the image for displaying on said monitor 218. Said changing [scene] point detecting element 213 analyzes the color information between each image about the inputted dynamic image, and detects a part with this remarkable change as a changing point of a scene. The changing point of this scene is used in order to discover a scene and a cut required for image edit. Magnetic storage 216 memorizes the frame number which described the changing point besides a series of dynamic images which consist of two or more above-mentioned scenes, the dynamic-image information which consists of an image file name for a high-speed display, and the dynamic image for a high-speed display. The dynamic image for a high-speed display which thinned out as a representation image of a high-speed display and a cut according to the size displayed, and was carried out is displayed in the window for a high-speed display to see the whole dynamic image which consists of two or more frames, or each divided scene

at high speed at this time.
[0025] Drawing 5 is drawing showing an example of the edit display of the dynamic-image edit equipment displayed on said monitor 218, in 310, the dynamic image for a high-speed display (M-icon is called below Moving Icon:) and 312 show various feature buttons, and, as for the window for a high-speed display, and 311, 313 shows an edit window. Like drawing 5 , the M-icon 311 reduces and displays the object for a high-speed display, and the representation image of a cut according to image size (80x60 pixels) in the window 310 for a high-speed display. The feature button for performing actuation of the various kinds [feature buttons / 312 / various / operator] in a screen top and the edit window 313 are the area for performing various kinds of editing operation. The screen of drawing 5 is a GUI (Graphic User Interface) screen, and an operator performs edit of dynamic images, such as directions of the high-speed output of a dynamic image, using the pointing device and keyboards of the input section 219, such as a mouse, on this GUI screen. When the high-speed output of a dynamic image is directed from this input section 219, CPU211 reads the image for the high-speed output of each above-mentioned cut from said magnetic storage 216 continuously, and displays it on said monitor 218. In case the above actuation is performed, said CPU211 performs delivery various control for an access signal to memory 212, the changing [scene] point detecting element 213, the video interface 214, magnetic storage 216, and a frame memory 217 through a bus 220. Said memory 212 memorizes the various control programs of said CPU211.
[0026] Division of a cut unit can be automatically performed by above dynamic-image edit equipment, a dynamic image can be memorized per a scene and cut, and can be managed, and a required scene and a cut can be discovered easily. And it can respond also to the edit which made the scene and the cut the unit easily, and an operator's activity can be mitigated.
[0027] As a means by which the magnitude of here inter-frame variation detects the changing point of the inputted dynamic image, the illuminance and sound volume between partition images, a color tone, etc. are analyzed, and there are some to which those change detects a remarkable part as a changing point of a scene as shown, for example in JP,2-184181,A.
[0028] In choosing the scene of arbitration and performing an editing task with the dynamic-image edit equipment of a configuration of that an operator shows drawing 4 , it gives special effect, such as wipe which gives change to the change of performing trimming which specifies the section actually used in each scene as well as specifying how connecting a scene, and a scene and a scene, and dissolve. When performing editing tasks, such as the above-mentioned trimming operation, an operator specifies the editing point, looking at that the editing point which operates a jog function, a shuttle function, etc., repeats playback to order and hard flow repeatedly, and is made into the purpose is reproduced, reproducing an image. thus, the window which reproduces an image in order that an operator may find promptly the editing points (frame for performing trimming etc.) made into the purpose -- coma delivery and the carbon button of a rapid traverse -- the shuttle function is prepared further.
[0029] A jog function puts the function reproduced for every frame per predetermined include-angle rotation, and the function which reproduces a shuttle function with the reproduction speed according to the displacement angle from an origin is said here. predetermined [which prepared the zero in the center of a slider display as this shuttle function, stopped return and a cine mode display at the zero automatically even if it was in which location at predetermined within the limits which faced across that zero, and faced across another side and its zero] -- it explains below about the example which was made to carry out a cine mode display with the reproduction speed set up standing it still in the location which moved the knob if out of range.
[0030] Hereafter, one example of the shuttle function in the dynamic-image method of presentation of this invention is explained. Drawing 6 shows the preview window 500 where the slider 501 for realizing the image display section 503, the pushbutton-switch group 505 which controls the playback condition of the dynamic image reproduced in the image display section 503, and the function which can carry out adjustable [of the reproduction speed] for a dynamic image also to the forward direction and hard flow was made.
[0031] The shuttle function in the dynamic-image method of presentation of this invention Click or it drags. the knob 506 which exists in the center of a slider 501 while the time of the first preview window display (at the time of preview initiation) or a cine mode display is standing it still -- a mouse -- cursor -- superposition -- it is reproducible with the reproduction speed beforehand set up by making it move to the left or the right corresponding to the distance to which it was made to move from a center (if it is made to move to the right from a center -- the forward direction). this reproduction speed -- a logarithm -- it is possible to express wide range reproduction speed by doubling with the

logarithmic scale 504 arranged at spacing, and setting up one n times [0 to] the reproduction speed of this.
[0032] Drawing 7 which shows the flow chart of this shuttle function is mentioned, and the above-mentioned shuttle function is explained concretely. In addition, the program which realizes the flow chart of drawing 7 may be memorized by computer to the medium which can be read. If a preview initiation (step 600) function is called as shown in the flow chart of drawing 7 , the above-mentioned pushbutton-switch group 505 and above-mentioned slider 501 grade for playback actuation will be displayed on a display (step 601), and the image of a head frame will be displayed on the image display section 503. If an operator uses a mouse and clicks, drags and moves the knob 506 which exists in the center of said slider 501 here So that the movement magnitude (namely, movement magnitude from the center of this knob 506) of the mouse at this time may be detected (step 602) and an image may be reproduced with the reproduction speed beforehand set up according to that movement magnitude Frame sequence used for playback is computed (step 604), and data are outputted based on the calculation (step 606). Calculation of a frame is taken as the approach of outputting the same frame several times or sending out the following frame for every fixed spacing, when reproducing at the rate of less than 1X. On the contrary, when reproducing at the rate exceeding 1X, desired reproduction speed can be realized with extracting and outputting data of several frames to what frame cage. Whether it is in the condition which said knob 506 was clicked with the mouse and dragged or the playback at this time is in the condition in which said knob 506 separated from the drag, it makes it display on the location to which said knob 506 was moved, and makes playback with the reproduction speed of the location concerned continue.
[0033] The function in which a setup of the IN/OUT point of trimming is performed using a mouse can be created, checking another processing which used the mouse, for example, a dynamic image and voice, since this function enables it to release the function of a mouse from actuation of said slider 501, i.e., while previewing. Moreover, also in case an IN/OUT point setup is performed from a keyboard at the time of a preview, it becomes possible to be able to work without an operator having mind taken by actuation of a mouse. furthermore, when an operator wants to reproduce with another reproduction speed, said knob 506 is moved to a necessary location with a mouse -- being sufficient .
[0034] Next, when stopping playback (halt), playback can be stopped by clicking the halt button switch of the pushbutton-switch group 505, or returning said knob 506 of said slider 501 to a mid gear (zero location of logarithmic scale 504) (halt). However, since a knob with which shuttle dials, such as a video tape recorder, are equipped did not usually have the mechanical connection (stopper) which shows that it came to the zero in order to set said knob 506 by one point of a mid gear, returning to a zero by one actuation needed the remarkable level of skill for actuation conventionally.
[0035] Then, it sets in the shuttle in the dynamic-image method of presentation of this invention. As the location of said knob 506 which has moved with the mouse is detected, consequently it is shown in drawing 1 When said knob 506 moves within the fixed section 100 near the home position core of the slider 501 set up beforehand (the 1st field), (Step 607), The display of said knob 506 was automatically returned to the zero 0, playback was stopped to coincidence (halt), and the function which makes playback of an image and voice a idle state was prepared (step 608).
[0036] It is possible to reduce sharply the time and effort to which an operator aligns said knob 506 with a zero by this function. Furthermore, it is also possible by extending the range of the above-mentioned fixed section (the 1st field) to said slider 501 whole to return a knob to a center section automatically from the location of arbitration.
[0037] moreover , the function which supervise the condition of a click of the pushbutton switch of a mouse , will return to a zero 0 automatically in all the fields of said slider 501 further if it be the location which moved said knob 506 , it reproduce at the rate concerned only while continue click (step 700) , and an operator detach said knob 506 , and will be in a idle state as the dynamic image method of presentation of this invention be show in the flow chart of drawing 9 can also prepare collectively . In addition, the program which realizes the flow chart of drawing 1 is memorizable by computer to the medium which can be read.
[0038] If this shuttle function is used, playback can be repeated gradually and processing which discovers a desired frame can be performed easily. Moreover, as for two functions, or [whether if said above-mentioned knob 506 is detached it will return to a zero, or / stopping in the location], since it is made to be switched by clicking the pushbutton switch 502 of the Ohtori turn (Auto Return) by turns, an operator can use easily the shuttle function according to the situation at that time.
[0039] In addition, the shuttle function of this invention mentioned above does not have **** during edit (or edit was completed) at the check by the preview of a scene, and it cannot be overemphasized that it is applicable also to control

of the video tape recorder to which the monitor was connected.
[0040] even if predetermined within the limits with equal right and left which according to this example prepared the zero a center or near a center the slider, and faced across the zero in the window for edit has a knob in which location -- automatic -- the location of a zero -- return and reproduction speed -- 0 -- becoming -- a cine mode display -- a idle state or a quiescent state -- carrying out -- predetermined -- if out of range, the cine mode display of the knob carries out with the reproduction speed set as the location, standing it still in the moved location. Furthermore, the dynamic-image method of presentation and equipment which use those functions and the function which enabled it to return to a zero from all locations when detaching the knob for the dynamic-image edit equipment it was made to switch by turns can be offered.
[0041] When the playback image-display window 500 is displayed like drawing 6 in the above-mentioned example and the cine mode display is standing [or] it still, cursor doubles with the knob 506 which exists in the center of the shuttle functional setting slider 501 with a mouse, and playback is performed with the reproduction speed which set up beforehand corresponding to the distance to which it was made to move from a center by performing a click or a drag and making it move to the left or the right of this shuttle functional setting slider 501.
[0042] However, in order for an operator to reproduce a dynamic image with necessary reproduction speed in this case, it is necessary to move a knob to the location of the target reproduction speed.
[0043] For this reason, an operator is unreproducible with the reproduction speed of arbitration from immediately after playback initiation with the shuttle function of the above-mentioned example.
[0044] The example explained to the following of this invention enables it to specify the rate reproduced using the window which shows the reproduction speed of the window for playback of an image, and creates the mode which can reflect the set-up contents immediately further. Drawing 4 , and 5, 6, 10 and 11 are mentioned, and this example is explained below.
[0045] It explains taking the case of the activity which carries out an editing task hereafter to the material which has photoed this example. In addition, the dynamic-image edit equipment of the same configuration as drawing 4 is used for explanation of this example. If one of the displayed M-icons 311 is chosen and the preview carbon button of the feature button groups 312 is clicked in order that an operator may check the contents of the image included in each scene in drawing 5 , the 1st frame of the dynamic image to which CPU211 corresponds by the preview function is read, an animation is displayed and reproduced by the monitor 218 like drawing 6 , and an operator will check, looking at it. A preview function is a function which reproduces on a display the result which edit in the middle of edit completed here, and an operator checks the contents of edit by seeing this image.
[0046] drawing 10 -- one example of the window for image reconstructions of the dynamic-image edit equipment of this invention -- it is -- 110 -- a playback image display window and 111 -- display / playback window and 112,113,114 -- a playback carbon button group and 115 -- a shuttle functional setting slider and 116 -- for a interlocking carbon button and 119, a zero reset button and 120 are [a reproduction speed viewing window and 117 / a reproduction speed modification carbon button and 118 / the jump carbon buttons 122 of a set carbon button and 121] shuttle functional setting knobs.
[0047] In drawing 10 , by an operator clicking each carbon button group 112,113,114 for playback, order and hard flow playback, coma delivery, a rapid traverse, etc. are performed, or the shuttle functional setting knob 122 of the shuttle functional setting slider 115 is moved to right and left, and slow playback (order and hard flow) and rapid-traverse playback are performed.
[0048] Moreover, the reproduction speed at the time of using the shuttle functional setting slider 115 is displayed on the reproduction speed viewing window 116, and an operator sets it as desired reproduction speed, checking this value. However, that (a knob is moved) which is set as desired reproduction speed is difficult for an instant (from the target frame).
[0049] Then, in this example, the reproduction speed modification carbon button 117 which carries out the adjustment or fine tuning of a function and reproduction speed which can input reproduction speed into the reproduction speed viewing window 116 (assignment) was added, and the interlocking carbon button 118 for specifying whether the result changed further is interlocked with reproduction speed in an instant was formed.
[0050] If the interlocking carbon button 118 is pushed beforehand, immediately after pushing the reproduction speed modification carbon button 117, reproduction speed will be inputted from the keyboard of the input section 219, and decision 607 and playback will be made into a quiescent state (step 606). In addition, the program which realizes the

flow chart of drawing 11 is memorizable by computer to the medium which can be read.
[0051] Drawing 12 is drawing for explaining the shuttle function of still more nearly another example of this invention in which the playback initial value viewing window was prepared in the window for image reconstructions of the dynamic-image edit equipment shown in drawing 10 .
[0052] In drawing 12 , 123 shows a playback initializing carbon button and 124 shows a playback initial value viewing window. Drawing 13 is a flow chart which shows the procedure for performing the shuttle function of this example. In addition, the program for realizing this flow chart is memorizable by computer to the medium which can be read.
[0053] In drawing 13 , if the knob 122 of a shuttle is returned to the fixed section (zero) of the center of a slider 115 (step 607), and whether playback initial value is set up judges to a playback initial value viewing window (step 760) and it is set as it, a dynamic image and voice will be reproduced with the reproduction speed of this setting initial value (step 604,605,606). Playback is made into a halt or a quiescent state if not set up (step 608).
[0054] In addition, it clicks the playback initial value viewing window 124 with a mouse, a setup of this playback initial value is inputted from a keyboard, and also as the list 125 of setting possible values is shown in drawing 14 , it displays it, and you may make it choose the value in this list. Moreover, this selected value is displayed on the playback initial value viewing window 124.
[0055] By the way, in an editing task, in order to often raise the special effect of edit, how to be as reproducing to hard flow **** [, and] may be used. [carrying out slow playback of the specific section] This invention is effective to check this edit effectiveness beforehand. The head frame which gives special effect is specifically specified (of course also in this activity, the function of this invention is effective), and the set carbon button 120 is clicked. Next, the rate to reproduce is specified and the carbon button 112 for playback or 114 is pushed. In this way, if the image by which an operator is reproduced is seen and checked, evaluation of the edit effectiveness can be confirmed.
[0056] Moreover, if the jump carbon button 121 is pushed to reproduce with another reproduction speed, it will move to the frame set up with the set carbon button 120. Hereafter, an operator repeats a reproduction speed setup and playback similarly, and he can advance edit of a dynamic image, checking an edit condition.
[0057] Thus, by using the function in which reproduction speed can be specified, if it reproduces with what reproduction speed, it can check easily whether most effective edit can be performed. In addition, it is obvious that the remote file which used, other storages, for example, MO disk storage, or minded the network instead of magnetic storage 216 may be used.
[0058] Thereby, an operator can perform playback with the target reproduction speed from immediately after dynamic-image playback, can do efficiently the trial activity of edit effectiveness creation called retrieval [of an editing point], slow playback, and reverse playback, and can realize improvement in effectiveness of the special effect creation activity at the time of edit.
[0059]
[Effect of the Invention] In order to check the contents recorded from the image material since the display screen with the shuttle function which was excellent in operability was realizable as mentioned above according to this invention, and the contents of the scene under edit or after the completion of edit, a suitable preview function can be offered.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the edit equipment, the especially suitable dynamic-image display for program work of a dynamic image, and the dynamic-image method of presentation which are used for program work of a television broadcasting program, a video program, etc.

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PRIOR ART

[Description of the Prior Art] With the rapid progress to the information age, the advanced features which used the computer of the work facility which makes a television broadcasting program and a video program are progressing quickly. When especially program work in recent years uses a video tape recorder like before and handling and preservation record [rather than] image information on easy and cheap a hard disk and an optical disk using the image edit approach that a tape counter is repeated for a rapid traverse, rewinding, etc. in a letter, and image information is edited, many image edit approaches which used the dynamic-image edit equipment into which image information is edited are used.

[0003] However, although advanced features were carried out using the computer, the activity which records a dynamic image on a hard disk, and the activity which previews and checks the dynamic image recorded on the hard disk are required for the editing task in dynamic-image edit equipment equipped with the magnetic recorder and reproducing device which uses this hard disk and optical disk. (A preview is reproducing and checking on a display the result which edit in the middle of edit of image information completed.)

Generally, in edit of a dynamic image, the dynamic-image edit equipment into which image information is edited displays actuation and a control window by work of software on the display linked to the system control computer which constitutes dynamic-image edit equipment, and this actuation and a control window are used for it, and it performs actuation and control of dynamic-image edit equipment.

[0004] By work of software, in the actuation on a display, and a control window The rectangular viewing area which the control panel for substituting being combined with actuation of input devices, such as a mouse and a keyboard, for functions, such as a slider and a pushbutton switch, is displayed, for example, substitutes for the function of a slider (a slider is called hereafter.) In inside, the viewing area of the rectangle which simulated the knob of a slider is prepared further, and it is the viewing area (a knob is called hereafter.) of this rectangle. The mouse connected to the system control computer is used. Cursor Superposition, It clicks with a mouse (it is carrying out actuation of pushing the pushbutton switch attached to a mouse.). It carries out or is a drag (it is operating moving the location of the graphic form which piles up cursor and is chosen by moving a mouse etc., pushing the pushbutton switch of a mouse.). By making it move by carrying out, the shuttle function to realize the shuttle function of the dial type attached to a video tape recorder and the same function is prepared.

[0005] Here, the example of a screen configuration for the editing operation at the time of using as an example the dynamic-image edit software currently generally used for drawing 8 is shown. a similar screen -- MEDIA SUITE PRO and User's Guide for THE INDIGO (trademark) FAMILY and Version 1.0 and P. -- it is shown in 59 and 1994. In the screen for these editing operation, the window 800 currently displayed is [of incorporating and recording a video data on an edit system] for editing tasks, the image display section 802 is in the central part of a window 800, and the slider 801 which realizes an above-mentioned shuttle function and the same function is formed in the right-hand side control panel of a window 800.

[0006] Generally, as a type of functional actuation of such a shuttle, the type (only the slider part which realizes a shuttle function is indicated in the following explanatory view sides.) explained below is mainly known. a similar shuttle function -- Adobe PremiereTM User Guide Version 4. -- it is indicated by 0, 1994, and page122. This conventional shuttle function (the 1st type) is the type which made all the frames of the dynamic image currently edited in agreement with all the scales of a slider, as shown in drawing 2 . That is, it is the thing of a type which will direct and drag the head frame 202 (IN point is called) of the file for a dynamic image if the knob 201 of the slider 200

currently displayed is dragged using a mouse and moved to the left end 204 of a slider 200, and directs the last frame 203 (an OUT point is called) of a file if it is made to move to the right end 205 of a scale.
[0007] Moreover, if this type of slider 200 detaches the knob 201 currently dragged and drag actuation is stopped, the knob 201 will stand it still in the location which detached the knob 201 as it was.
[0008] As shown in drawing 3 , when a center or near a center a slider 300 is made into a zero 302 and a knob 301 is in the location as the 2nd type, it is also possible for the reproduction speed of an image to be set to 0 and to make it serve as a static-image display. In this case, if a knob 301 is moved to the right, if it moves to the forward direction on the left, an image will be reproduced by hard flow, and according to the movement magnitude from the zero 302 of a knob 301, reproduction speed will change, namely, will reproduce a dynamic image further as it is also at the assigned reproduction speed.
[0009] For example, in the location 1, then at the right end of a slider 300, it is reproduced by one n times [usual] the rate of this, and hard flow reverse-reproduces the usual reproduction speed by one n times [usual] the rate of this with usual in a left end location. If a knob 301 is detached in the location of arbitration, reproducing a knob 301 by this 2nd type of shuttle function, is continued with the reproduction speed of the location where it was stood still in the moved location of that arbitration, and the knob 301 stood it still. In order to stop playback this 2nd type of case, the activity whose operator returns a knob 301 to a zero 302 is required.
[0010]

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EFFECT OF THE INVENTION

[Effect of the Invention] In order to check the contents recorded from the image material since the display screen with the shuttle function which was excellent in operability was realizable as mentioned above according to this invention, and the contents of the scene under edit or after the completion of edit, a suitable preview function can be offered.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] As mentioned above, or there are some classes of the shuttle functions for the dynamic-image playback with which the edit system which used dynamic-image edit software is equipped, it thinks, but in previewing the edit progress in the time of being under edit or edit being completed, or the check of the contents of the edit result, the following problems occur, respectively.
[0011] the movement magnitude which a knob faces [doing fine-tuning activity of wanting for the frame number by which in the case of the shuttle of the 1st type the object to preview is assigned to the movement magnitude of a knob as it is the image which attains to long duration to increase for example, to return only one frame] -- **** -- since it becomes short, actuation becomes difficult and it is not suitable to playback by the same rate over long period of times, such as slow playback and **** playback
[0012] Moreover, in the case of the shuttle of the 2nd type, while reproducing with a certain reproduction speed, in order to stop playback using a shuttle function, the activity which returns a knob to a zero is needed, but it is very difficult to align a knob with the zero of a slider certainly by one actuation, it goes too far more often right and left, and requires time amount.
[0013] as mentioned above, in previewing using a shuttle function In the advantage and demerit being in each and performing slow playback and rapid-traverse playback etc. When there is no function which carries out an auto return to a zero like the 2nd above-mentioned type unsuitably as for the 1st above-mentioned type Actuation is difficult although a knob must be moved to the location which makes reproduction speed zero to stop playback immediately and display the frame, when the target frame appears.
[0014] Predetermined within the limits with equal right and left which the purpose of this invention solved the above-mentioned problem, prepared the zero a center or near a center the slider in the window for edit, and faced across the zero Even if a knob is in which location, return and reproduction speed serve as zero at a zero automatically, a cine mode display is made into a idle state, and the predetermined range outside is offering the dynamic-image method of presentation and equipment which carry out a cine mode display with the reproduction speed set as the location while the knob's had stood it still in the moved location.
[0015] The 2nd purpose of this invention will be offering the dynamic-image edit equipment and the dynamic-image method of presentation with which the location of a knob can return to a zero from all locations, if a knob is detached.

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MEANS

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the dynamic-image method of presentation of this invention The center of this slider graphic form is made into a zero for the field of the slider graphic form displayed on the window for edit. When it divides into the outside (the 2nd field) of the 1st field and this 1st field, and a knob is moved to this 2nd field of said slider graphic form or said knob is further detached in this 2nd field Said knob stops in the location and image display is continued at the rate of the request set up according to the distance from the zero of said knob and said slider graphic form. said knob is moving in the 1st [of said slider graphic form / said] field -- it is -- it is -- when said knob is detached and it stops, said knob returns to the zero of said slider graphic form automatically, and indicates it a idle state or a quiescent state by image reconstruction.
[0017] Moreover, the range of said 1st field makes a setup possible, and if said knob is detached by extending to said whole slider if needed, it may enable it to return the location of said knob to a zero from all locations.
[0018] Furthermore, if it reproduces with the reproduction speed corresponding to the location of a mouse and an operator detaches said knob only while continuing clicking said knob with a mouse, in said slider graphic form whole region, it returns to a zero automatically, and is good also considering playback as a idle state.
[0019]
[Embodiment of the Invention] Image information is inputted from picture reproducer like a video tape recorder for reproducing image materials, such as a video tape which recorded the image information which consists of an image and voice as edit equipment which enforces the dynamic-image method of presentation by this invention, a film, and a videodisk, and there are some which have a record regenerative apparatus equipped with the function recorded on record media, such as a magnetic disk and an optical disk.
[0020] In this record regenerative apparatus, image information was recorded, for example, it is read because an operator usually accesses through designating devices connected to the system control computer, such as a mouse and a keyboard, and image information is displayed on a display screen, and record media, such as a magnetic disk, are used for the edit of arrangement of image information, special effect processing like wipe, etc. which followed in order of necessary edit.
[0021] In order to check the contents recorded from the image material, and the contents of the scene under edit or after the completion of edit in process of such an editing task, an image and voice are usually reproduced using a preview function.
[0022] If an operator chooses a necessary scene with designating devices, such as a mouse and a keyboard, and a preview function is chosen, the preview window 500 as shown in drawing 6 will start, it will be displayed on a screen, and a playback indication of the animation will be given at the image display section 503 on a preview window 500. Drawing 6 is explained in full detail later.
[0023] The configuration of the dynamic-image edit equipment of one example of this invention is shown in drawing 4 . drawing 4 -- setting -- 211 -- CPU and 212 -- memory and 213 -- a changing [scene] point detecting element and 214 -- for magnetic storage and 217, as for a monitor and 219, a frame buffer and 218 are [a video interface and 215 / VTR and 216 / the input section and 220] buses. It connects with CPU211 through a bus 220, and it connects with the video interface 214 and VTR215 is in memory 212, the changing [scene] point detecting element 213, the video interface 214, magnetic storage 216, a frame buffer 217, a monitor 218, and the input section 219.
[0024] In drawing 4 , VTR215 reproduces the image information which consists of the dynamic image and voice of a single string which consists of two or more scenes from a video tape [finishing / wearing]. The video interface 214

inputs the image information from said VTR215, is changed into the format which treats a dynamic image with this equipment, and inputs it into magnetic storage 216 through a bus 220. At this time, the dynamic image of an one-frame unit is supplied to the changing [scene] point detecting element 213 through the video interface 214 and a bus 220 from said VTR215. A monitor 218 is a CRT display device and displays the scene, cut, and the edit condition of using for edit. A frame buffer 217 memorizes the image for displaying on said monitor 218. Said changing [scene] point detecting element 213 analyzes the color information between each image about the inputted dynamic image, and detects a part with this remarkable change as a changing point of a scene. The changing point of this scene is used in order to discover a scene and a cut required for image edit. Magnetic storage 216 memorizes the frame number which described the changing point besides a series of dynamic images which consist of two or more above-mentioned scenes, the dynamic-image information which consists of an image file name for a high-speed display, and the dynamic image for a high-speed display. The dynamic image for a high-speed display which thinned out as a representation image of a high-speed display and a cut according to the size displayed, and was carried out is displayed in the window for a high-speed display to see the whole dynamic image which consists of two or more frames, or each divided scene at high speed at this time.

[0025] Drawing 5 is drawing showing an example of the edit display of the dynamic-image edit equipment displayed on said monitor 218, in 310, the dynamic image for a high-speed display (M-icon is called below Moving Icon:) and 312 show various feature buttons, and, as for the window for a high-speed display, and 311, 313 shows an edit window. Like drawing 5 , the M-icon 311 reduces and displays the object for a high-speed display, and the representation image of a cut according to image size (80x60 pixels) in the window 310 for a high-speed display. The feature button for performing actuation of the various kinds [feature buttons / 312 / various / operator] in a screen top and the edit window 313 are the area for performing various kinds of editing operation. The screen of drawing 5 is a GUI (Graphic User Interface) screen, and an operator performs edit of dynamic images, such as directions of the high-speed output of a dynamic image, using the pointing device and keyboards of the input section 219, such as a mouse, on this GUI screen. When the high-speed output of a dynamic image is directed from this input section 219, CPU211 reads the image for the high-speed output of each above-mentioned cut from said magnetic storage 216 continuously, and displays it on said monitor 218. In case the above actuation is performed, said CPU211 performs delivery various control for an access signal to memory 212, the changing [scene] point detecting element 213, the video interface 214, magnetic storage 216, and a frame memory 217 through a bus 220. Said memory 212 memorizes the various control programs of said CPU211.

[0026] Division of a cut unit can be automatically performed by above dynamic-image edit equipment, a dynamic image can be memorized per a scene and cut, and can be managed, and a required scene and a cut can be discovered easily. And it can respond also to the edit which made the scene and the cut the unit easily, and an operator's activity can be mitigated.

[0027] As a means by which the magnitude of here inter-frame variation detects the changing point of the inputted dynamic image, the illuminance and sound volume between partition images, a color tone, etc. are analyzed, and there are some to which those change detects a remarkable part as a changing point of a scene as shown, for example in JP,2-184181,A.

[0028] In choosing the scene of arbitration and performing an editing task with the dynamic-image edit equipment of a configuration of that an operator shows drawing 4 , it gives special effect, such as wipe which gives change to the change of performing trimming which specifies the section actually used in each scene as well as specifying how connecting a scene, and a scene and a scene, and dissolve. When performing editing tasks, such as the above-mentioned trimming operation, an operator specifies the editing point, looking at that the editing point which operates a jog function, a shuttle function, etc., repeats playback to order and hard flow repeatedly, and is made into the purpose is reproduced, reproducing an image. thus, the window which reproduces an image in order that an operator may find promptly the editing points (frame for performing trimming etc.) made into the purpose -- coma delivery and the carbon button of a rapid traverse -- the shuttle function is prepared further.

[0029] A jog function puts the function reproduced for every frame per predetermined include-angle rotation, and the function which reproduces a shuttle function with the reproduction speed according to the displacement angle from an origin is said here. predetermined [which prepared the zero in the center of a slider display as this shuttle function, stopped return and a cine mode display at the zero automatically even if it was in which location at predetermined within the limits which faced across that zero, and faced across another side and its zero] -- it explains below about the

example which was made to carry out a cine mode display with the reproduction speed set up standing it still in the location which moved the knob if out of range:

[0030] Hereafter, one example of the shuttle function in the dynamic-image method of presentation of this invention is explained. Drawing 6 shows the preview window 500 where the slider 501 for realizing the image display section 503, the pushbutton-switch group 505 which controls the playback condition of the dynamic image reproduced in the image display section 503, and the function which can carry out adjustable [of the reproduction speed] for a dynamic image also to the forward direction and hard flow was made.

[0031] The shuttle function in the dynamic-image method of presentation of this invention Click or it drags. the knob 506 which exists in the center of a slider 501 while the time of the first preview window display (at the time of preview initiation) or a cine mode display is standing it still -- a mouse -- cursor -- superposition -- it is reproducible with the reproduction speed beforehand set up by making it move to the left or the right corresponding to the distance to which it was made to move from a center (if it is made to move to the right from a center -- the forward direction). this reproduction speed -- a logarithm -- it is possible to express wide range reproduction speed by doubling with the logarithmic scale 504 arranged at spacing, and setting up one n times [0 to] the reproduction speed of this.

[0032] Drawing 7 which shows the flow chart of this shuttle function is mentioned, and the above-mentioned shuttle function is explained concretely. In addition, the program which realizes the flow chart of drawing 7 may be memorized by computer to the medium which can be read. If a preview initiation (step 600) function is called as shown in the flow chart of drawing 7 , the above-mentioned pushbutton-switch group 505 and above-mentioned slider 501 grade for playback actuation will be displayed on a display (step 601), and the image of a head frame will be displayed on the image display section 503. If an operator uses a mouse and clicks, drags and moves the knob 506 which exists in the center of said slider 501 here So that the movement magnitude (namely, movement magnitude from the center of this knob 506) of the mouse at this time may be detected (step 602) and an image may be reproduced with the reproduction speed beforehand set up according to that movement magnitude Frame sequence used for playback is computed (step 604), and data are outputted based on the calculation (step 606). Calculation of a frame is taken as the approach of outputting the same frame several times or sending out the following frame for every fixed spacing, when reproducing at the rate of less than 1X. On the contrary, when reproducing at the rate exceeding 1X, desired reproduction speed can be realized with extracting and outputting data of several frames to what frame cage. Whether it is in the condition which said knob 506 was clicked with the mouse and dragged or the playback at this time is in the condition in which said knob 506 separated from the drag, it makes it display on the location to which said knob 506 was moved, and makes playback with the reproduction speed of the location concerned continue.

[0033] The function in which a setup of the IN/OUT point of trimming is performed using a mouse can be created, checking another processing which used the mouse, for example, a dynamic image and voice, since this function enables it to release the function of a mouse from actuation of said slider 501, i.e., while previewing. Moreover, also in case an IN/OUT point setup is performed from a keyboard at the time of a preview, it becomes possible to be able to work without an operator having mind taken by actuation of a mouse. furthermore, when an operator wants to reproduce with another reproduction speed, said knob 506 is moved to a necessary location with a mouse -- being sufficient .

[0034] Next, when stopping playback (halt), playback can be stopped by clicking the halt button switch of the pushbutton-switch group 505, or returning said knob 506 of said slider 501 to a mid gear (zero location of logarithmic scale 504) (halt). However, since a knob with which shuttle dials, such as a video tape recorder, are equipped did not usually have the mechanical connection (stopper) which shows that it came to the zero in order to set said knob 506 by one point of a mid gear, returning to a zero by one actuation needed the remarkable level of skill for actuation conventionally.

[0035] Then, it sets in the shuttle in the dynamic-image method of presentation of this invention. As the location of said knob 506 which has moved with the mouse is detected, consequently it is shown in drawing 1 When said knob 506 moves within the fixed section 100 near the home position core of the slider 501 set up beforehand (the 1st field), (Step 607), The display of said knob 506 was automatically returned to the zero 0, playback was stopped to coincidence (halt), and the function which makes playback of an image and voice a idle state was prepared (step 608).

[0036] It is possible to reduce sharply the time and effort to which an operator aligns said knob 506 with a zero by this function. Furthermore, it is also possible by extending the range of the above-mentioned fixed section (the 1st field) to said slider 501 whole to return a knob to a center section automatically from the location of arbitration.

[0037] moreover , the function which supervise the condition of a click of the pushbutton switch of a mouse , will return to a zero 0 automatically in all the fields of said slider 501 further if it be the location which moved said knob 506 , it reproduce at the rate concerned only while continue click (step 700) , and an operator detach said knob 506 , and will be in a idle state as the dynamic image method of presentation of this invention be show in the flow chart of drawing 9 can also prepare collectively . In addition, the program which realizes the flow chart of drawing 1 is memorizable by computer to the medium which can be read.
[0038] If this shuttle function is used, playback can be repeated gradually and processing which discovers a desired frame can be performed easily. Moreover, as for two functions, or [whether if said above-mentioned knob 506 is detached it will return to a zero, or / stopping in the location], since it is made to be switched by clicking the pushbutton switch 502 of the Ohtori turn (Auto Return) by turns, an operator can use easily the shuttle function according to the situation at that time.
[0039] In addition, the shuttle function of this invention mentioned above does not have **** during edit (or edit was completed) at the check by the preview of a scene, and it cannot be overemphasized that it is applicable also to control of the video tape recorder to which the monitor was connected.
[0040] even if predetermined within the limits with equal right and left which according to this example prepared the zero a center or near a center the slider, and faced across the zero in the window for edit has a knob in which location -- automatic -- the location of a zero -- return and reproduction speed -- 0 -- becoming -- a cine mode display -- a idle state or a quiescent state -- carrying out -- predetermined -- if out of range, the cine mode display of the knob carries out with the reproduction speed set as the location, standing it still in the moved location. Furthermore, the dynamic-image method of presentation and equipment which use those functions and the function which enabled it to return to a zero from all locations when detaching the knob for the dynamic-image edit equipment it was made to switch by turns can be offered.
[0041] When the playback image-display window 500 is displayed like drawing 6 in the above-mentioned example and the cine mode display is standing [or] it still, cursor doubles with the knob 506 which exists in the center of the shuttle functional setting slider 501 with a mouse, and playback is performed with the reproduction speed which set up beforehand corresponding to the distance to which it was made to move from a center by performing a click or a drag and making it move to the left or the right of this shuttle functional setting slider 501.
[0042] However, in order for an operator to reproduce a dynamic image with necessary reproduction speed in this case, it is necessary to move a knob to the location of the target reproduction speed.
[0043] For this reason, an operator is unreproducible with the reproduction speed of arbitration from immediately after playback initiation with the shuttle function of the above-mentioned example.
[0044] The example explained to the following of this invention enables it to specify the rate reproduced using the window which shows the reproduction speed of the window for playback of an image, and creates the mode which can reflect the set-up contents immediately further. Drawing 4 , and 5, 6, 10 and 11 are mentioned, and this example is explained below.
[0045] It explains taking the case of the activity which carries out an editing task hereafter to the material which has photoed this example. In addition, the dynamic-image edit equipment of the same configuration as drawing 4 is used for explanation of this example. If one of the displayed M-icons 311 is chosen and the preview carbon button of the feature button groups 312 is clicked in order that an operator may check the contents of the image included in each scene in drawing 5 , the 1st frame of the dynamic image to which CPU211 corresponds by the preview function is read, an animation is displayed and reproduced by the monitor 218 like drawing 6 , and an operator will check, looking at it. A preview function is a function which reproduces on a display the result which edit in the middle of edit completed here, and an operator checks the contents of edit by seeing this image.
[0046] drawing 10 -- one example of the window for image reconstructions of the dynamic-image edit equipment of this invention -- it is -- 110 -- a playback image display window and 111 -- display / playback window and 112,113,114 -- a playback carbon button group and 115 -- a shuttle functional setting slider and 116 -- for a interlocking carbon button and 119, a zero reset button and 120 are [a reproduction speed viewing window and 117 / a reproduction speed modification carbon button and 118 / the jump carbon buttons 122 of a set carbon button and 121] shuttle functional setting knobs.
[0047] In drawing 10 , by an operator clicking each carbon button group 112,113,114 for playback, order and hard flow playback, coma delivery, a rapid traverse, etc. are performed, or the shuttle functional setting knob 122 of the shuttle

functional setting slider 115 is moved to right and left, and slow playback (order and hard flow) and rapid-traverse playback are performed.

[0048] Moreover, the reproduction speed at the time of using the shuttle functional setting slider 115 is displayed on the reproduction speed viewing window 116, and an operator sets it as desired reproduction speed, checking this value. However, that (a knob is moved) which is set as desired reproduction speed is difficult for an instant (from the target frame).

[0049] Then, in this example, the reproduction speed modification carbon button 117 which carries out the adjustment or fine tuning of a function and reproduction speed which can input reproduction speed into the reproduction speed viewing window 116 (assignment) was added, and the interlocking carbon button 118 for specifying whether the result changed further is interlocked with reproduction speed in an instant was formed.

[0050] If the interlocking carbon button 118 is pushed beforehand, immediately after pushing the reproduction speed modification carbon button 117, reproduction speed will be inputted from the keyboard of the input section 219, and decision 607 and playback will be made into a quiescent state (step 606). In addition, the program which realizes the flow chart of drawing 11 is memorizable by computer to the medium which can be read.

[0051] Drawing 12 is drawing for explaining the shuttle function of still more nearly another example of this invention in which the playback initial value viewing window was prepared in the window for image reconstructions of the dynamic-image edit equipment shown in drawing 10 .

[0052] In drawing 12 , 123 shows a playback initializing carbon button and 124 shows a playback initial value viewing window. Drawing 13 is a flow chart which shows the procedure for performing the shuttle function of this example. In addition, the program for realizing this flow chart is memorizable by computer to the medium which can be read.

[0053] In drawing 13 , if the knob 122 of a shuttle is returned to the fixed section (zero) of the center of a slider 115 (step 607), and whether playback initial value is set up judges to a playback initial value viewing window (step 760) and it is set as it, a dynamic image and voice will be reproduced with the reproduction speed of this setting initial value (step 604,605,606). Playback is made into a halt or a quiescent state if not set up (step 608).

[0054] In addition, it clicks the playback initial value viewing window 124 with a mouse, a setup of this playback initial value is inputted from a keyboard, and also as the list 125 of setting possible values is shown in drawing 14 , it displays it, and you may make it choose the value in this list. Moreover, this selected value is displayed on the playback initial value viewing window 124.

[0055] By the way, in an editing task, in order to often raise the special effect of edit, how to be as reproducing to hard flow **** [, and] may be used. [carrying out slow playback of the specific section] This invention is effective to check this edit effectiveness beforehand. The head frame which gives special effect is specifically specified (of course also in this activity, the function of this invention is effective), and the set carbon button 120 is clicked. Next, the rate to reproduce is specified and the carbon button 112 for playback or 114 is pushed. In this way, if the image by which an operator is reproduced is seen and checked, evaluation of the edit effectiveness can be confirmed.

[0056] Moreover, if the jump carbon button 121 is pushed to reproduce with another reproduction speed, it will move to the frame set up with the set carbon button 120. Hereafter, an operator repeats a reproduction speed setup and playback similarly, and he can advance edit of a dynamic image, checking an edit condition.

[0057] Thus, by using the function in which reproduction speed can be specified, if it reproduces with what reproduction speed, it can check easily whether most effective edit can be performed. In addition, it is obvious that the remote file which used, other storages, for example, MO disk storage, or minded the network instead of magnetic storage 216 may be used.

[0058] Thereby, an operator can perform playback with the target reproduction speed from immediately after dynamic-image playback, can do efficiently the trial activity of edit effectiveness creation called retrieval [of an editing point], slow playback, and reverse playback, and can realize improvement in effectiveness of the special effect creation activity at the time of edit.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The slider of this invention, and the explanatory view of an example of the function.
[Drawing 2] A conventional slider and its conventional symbol description Fig.
[Drawing 3] A conventional slider and its conventional symbol description Fig.
[Drawing 4] The block diagram showing the configuration of the dynamic-image edit equipment by one example of this invention.
[Drawing 5] Drawing showing the example of an edit-display display of the dynamic-image edit equipment of drawing 4 .
[Drawing 6] Drawing showing one example of the preview window in the dynamic-image edit equipment which used the dynamic-image method of presentation of this invention.
[Drawing 7] The flow chart for realizing a shuttle function using the dynamic-image method of presentation of another example of this invention.
[Drawing 8] Drawing showing the preview window in conventional dynamic-image edit equipment.
[Drawing 9] The flow chart for realizing the shuttle function of other examples of this invention.
[Drawing 10] Drawing showing an example of the playback image display window of the dynamic-image edit equipment of other examples of this invention.
[Drawing 11] The flow chart for realizing the shuttle function of other examples of this invention.
[Drawing 12] Drawing showing an example of the playback image display window of other examples of this invention.

[Drawing 13] The flow chart which realizes the shuttle function of the example of drawing 12 .
[Drawing 14] Drawing showing the example of the playback initial value chart used in relation to the viewing window of drawing 13 .
[Description of Notations]
100: 1st field 101 : The 2nd field 110 : [Playback image display window,] 111: Display / playback window 112,113,114 : [Playback carbon button group,] 115: Shuttle functional setting slider 116 : [Reproduction speed viewing window,] 117: Reproduction speed modification carbon button 118 is a interlocking carbon button. 119 : [Zero reset button,] 120: Set carbon button 121: Jump carbon button 122 : [Shuttle functional setting knob,] 123: Playback initializing carbon button 124 : [Playback initial value viewing window,] 125: Playback initial value list 200 : [A slider, a 201:knob,] 202: Head frame (IN point) 203 : [The last frame (OUT point),] 204 : The left end of a slider, the right end of a 205:slider, 211:CPU, 212: Memory 213: Changing [scene] point detecting element 214 : [Video interface,] 215: VTR 216: Magnetic storage 217 : [Frame buffer,] 218: Monitor 219: Input section 220: Bus 300 : [Slider,] 301: Knob 302: Zero 310 : [The window for a high-speed display,] 311 : M-icon A 312:feature button group, 313 : [Edit window,] 500: Preview window 501: Slider 502 : [The change pushbutton switch of the Ohtori turn,] 503: Image display section 504: Logarithmic scale A 505:button-switch group and 506: Knob 800: Window 801: Slider,

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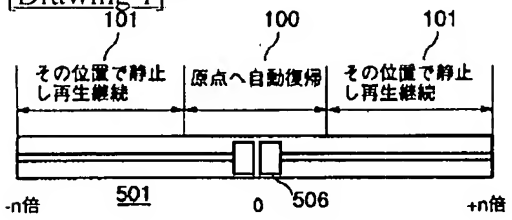
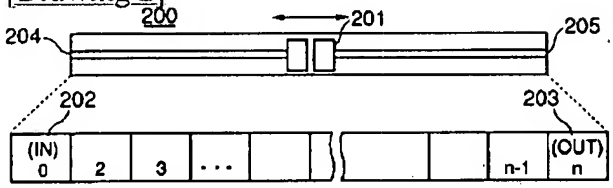
DRAWINGS

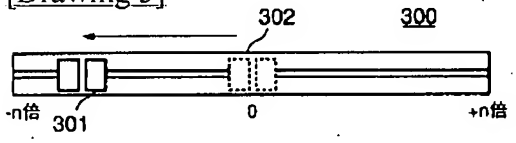
[Drawing 1]



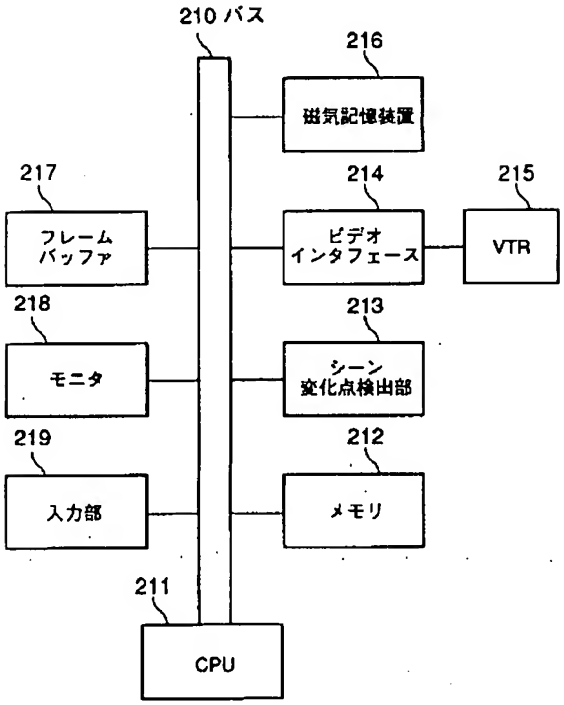
[Drawing 2]



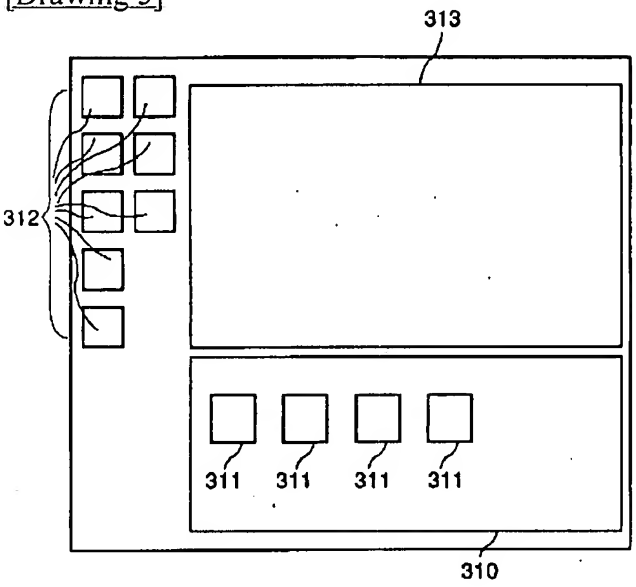
[Drawing 3]



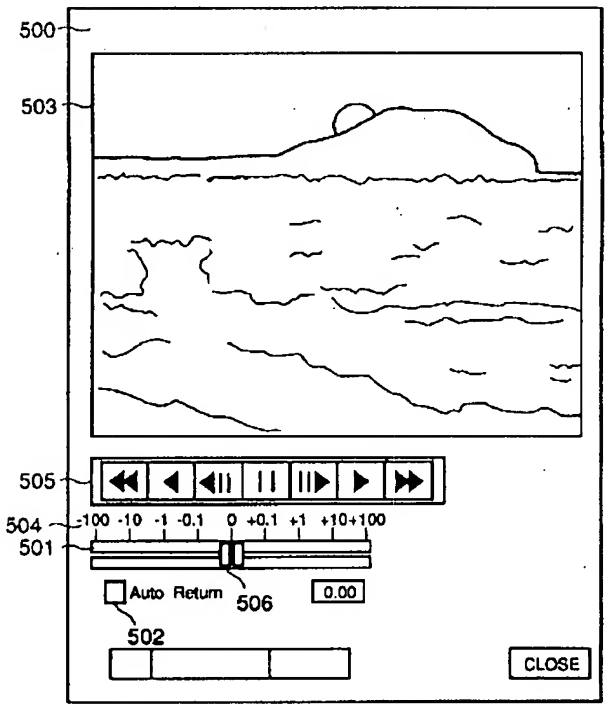
[Drawing 4]



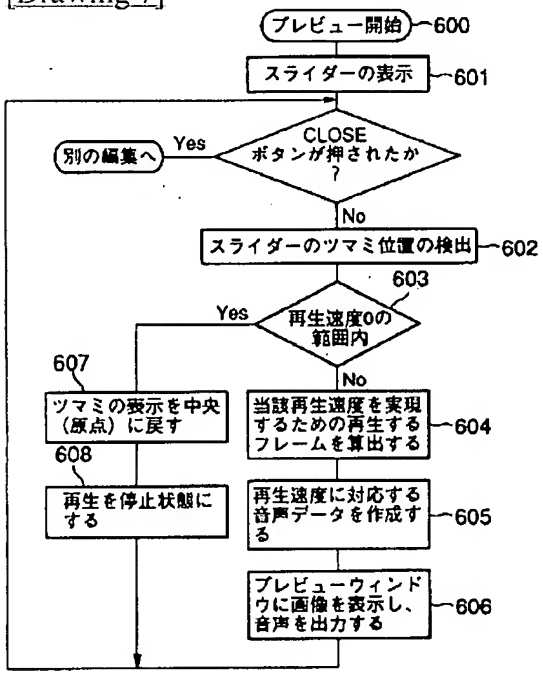
[Drawing 5]



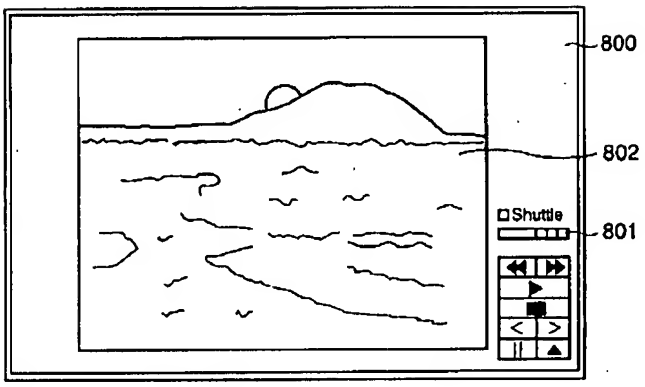
[Drawing 6]



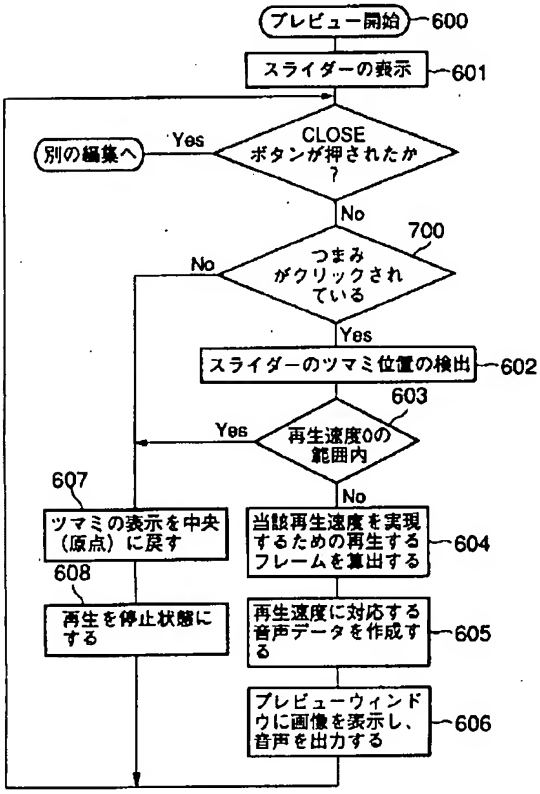
[Drawing 7]



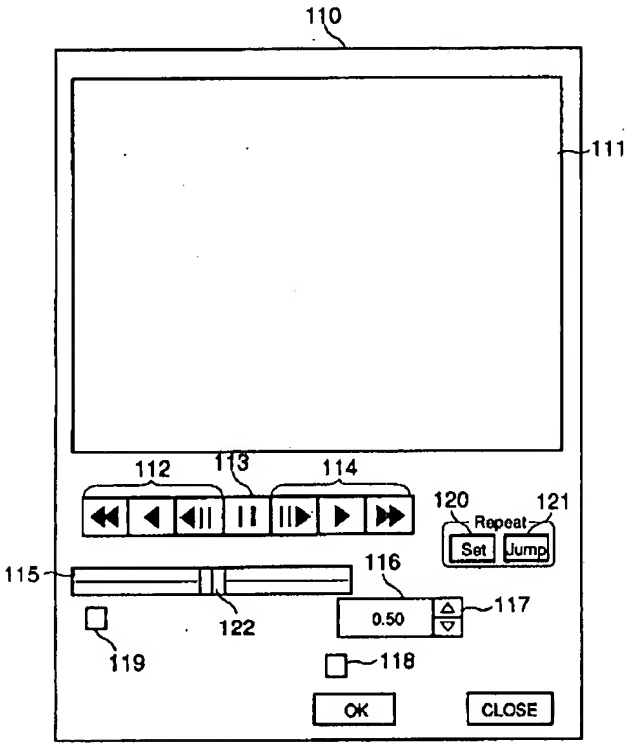
[Drawing 8]



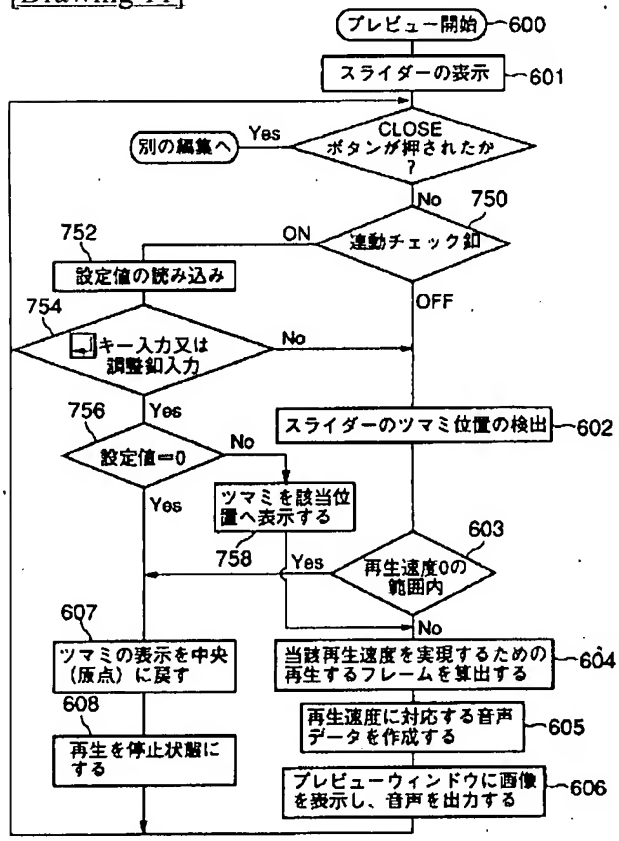
[Drawing 9]



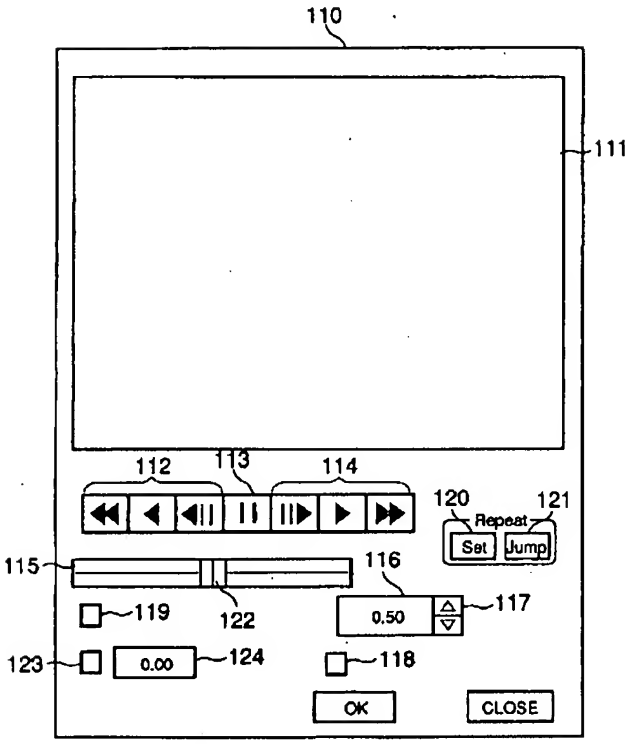
[Drawing 10]



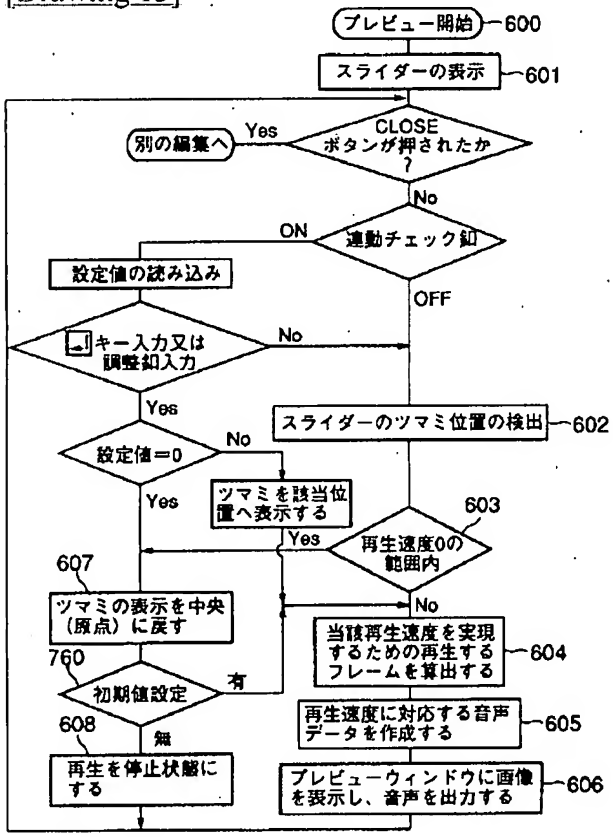
[Drawing 11]



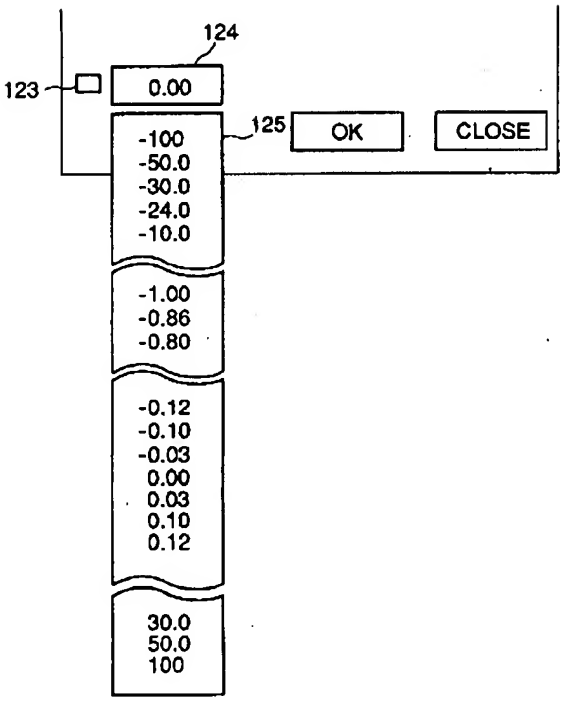
[Drawing 12]



[Drawing 13]



[Drawing 14]



[Translation done.]